

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph on page 1, lines 8-12 with the following amended paragraph:

The present application is a continuation in-part of U.S. Patent Application No. 09/641,746, now U.S. Patent No. 6,484,143, filed August 18, 2000, and claims priority to and incorporates by reference for all purposes, Provisional U.S. Patent Application Nos. 60/219,172, 60/219,166, 60/219,946, and 60/219,177 all filed on July 19, 2000, and is further related to U.S. Patent Application No. 09/644,927 filed August 23, 2000. U.S. Patent No. 6,484,143 further claims priority to Provisional U.S. Patent Application No. 60/ 166,906, filed November 22 1999.

Please replace the paragraph on page 6, lines 20-30 with the following amended paragraph:

The system functions by mapping hostnames, such as ~~www.customer.com~~ www. customer.com to a customer's origin servers 107 and 109.. The local DNS 113 queries the traffic management system 105 for name resolution of the customers Web site and receives a response specifying the server best suited to handle the request, either customer origin servers 107 or servers 103 located in the UDN. When the client 111 requests a customer homepage, tags within the HTML direct the imbedded static content to the network of cache servers 103 and 104. In this example the static content may be tagged with a domain name like customer.speedera.com. Each local DNS in the example is directed to a different resource for each hostname based on several factors, such as proximity to the resource, network congestion, and server load.

Please replace the paragraph on page 6, lines 32-36 with the following amended paragraph:

In this example, www._customer.com is mapped to the customer origin servers represented by customer origin Sites 1 109 and 2 107. Customer.speedera.net is mapped to a collection of delivery nodes represented by point of presence servers, i.e., POPs 103, 104. As merely an example, a method for using such a UDN is provided below.

Please replace the paragraph on page 6, lines 38-39 with the following amended paragraph:

1. The client 111 requests a customer home page: `www._.customer.com` from a local DNS 113.

Please replace the paragraph on page 7, lines 8-10 with the following amended paragraph:

4. An object with the image tag specifying `http://customer.speedera.net/www._.customer.com/hello.gif` is found in the HTML of the homepage.

Please replace the paragraph on page 10, lines 19-23 with the following amended paragraph:

1. An initial user makes a request to the cache for an object `http://customer.speedera.net/www._.customer.com/images/test.gif` (Step 1);
2. The cache, discovering that it does not have the object, will find the name of the origin site in the URL (`www._.customer.com`) and make a request to the origin site for `/images/test.gif` (Step 2);

Please replace the paragraph on page 17, lines 1-2 with the following amended paragraph:

Add "`www._.customer.com/images/picture2.jpg`" to the same site as "`www._.customer.com/images/picture.jpg`."

Please replace the paragraph on page 18, lines 29-30 with the following amended paragraph:

The original homepage contains the following URL:
`http://www._.customer.com/page.html`

Please replace the paragraph on page 19, lines 5-9 with the following amended paragraph:

Here is a picture:

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</body></html>
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Please replace the paragraph on page 19, lines 13-14 with the following amended paragraph:

page.html from www_._customer.com
images/picture.jpg from www_._customer.com

Please replace the paragraph on page 19, lines 19-20 with the following amended paragraph:

page.html from www_._customer.com
www_._customer.com/images/picture.jpg from customer.speedera.net

Please replace the paragraph on page 19, lines 25-34 with the following amended paragraph:

In an alternative embodiment, the method can set up virtual hosting so that the user's request for content is directed to the present CDN instead of to the origin site. Here, the customer can change the DNS setup to cause the domain name to resolve to the present network cache servers instead of to the original Web server. The domain name may be changed, for example, change the domain name from www_._customer.com to wwwx.customer.com. The present caches in the network can be configured in a way such that when they get a request for www_._customer.com content they have not cached, they can make a request to the wwwx.customer.com origin site to get the content. Here, the URLs in the Web pages may not need to be changed.

Please replace the paragraph on page 20, lines 1-2 with the following amended paragraph:

1. Access the user interface at:
~~https://~~speedeye.speedera.com

Please replace the paragraph on page 20, lines 7-8 with the following amended paragraph:

For example, if an image:

www._customer.com/images/picture.jpg

Please replace the paragraph on page 20, lines 13-16 with the following amended paragraph:

Enter "~~http://~~www._customer.com/images/picture.jpg" to invalidate the individual picture, or "~~http://~~www._customer.com/images/" to invalidate all content in the images directory, or "~~http://~~www._customer.com" to invalidate all content in the domain.

Please replace the paragraph on page 20, lines 33-34 with the following amended paragraph:

1) Access the user interface at:

~~https://~~speedeye.speedera.com

Please replace the paragraph on page 21, lines 10-11 with the following amended paragraph:

1. Access the user interface at:

~~https://~~speedeye.speedera.com

Please replace the paragraph on page 21, lines 30-31 with the following amended paragraph:

1) Access the user interface at:

~~https://~~speedeye.spedera.com

Please replace the paragraph on page 22, lines 25-31 with the following amended paragraph:

The Location table in Fig. 5H shows data for the *www._speedera.com* Web site.
The graph shows the performance for downloading specific components of the page.

This table shows that the majority of the time spent in the download was spent downloading the home page itself. The remainder of the content (all the gifs on the subsequent lines) has been cached and is delivered from the closest and least loaded available server within the CDN, in a fraction of the time. These cached items have a domain name of www._speedera.net.

Please replace the paragraph on page 24, line 38-page 25, line 6 with the following amended paragraph:

The present Global Traffic Management service routes user requests to the closest available and least-loaded server. The service also tests the servers it manages for service performance and availability, using actual application-level sessions. When a service test fails, the system reroutes the traffic to other available servers. The Global Traffic Management service is based on Domain Name Service (DNS). The Internet uses the DNS to allow users to identify a service with which they want to connect. For example, www._speedera.com identifies the Web service (www) from speedera.com.

Please replace the paragraph on page 26, lines 24-25 with the following amended paragraph:

1) Access the user interface at:
<https://speedeye.speedera.com>

Please replace the paragraph on page 27, lines 18-19 with the following amended paragraph:

1. Access the user interface at:
<https://speedeye.speedera.com>

Please replace the paragraph on page 27, lines 34-35 with the following amended paragraph:

1) Access the user interface at:
<https://speedeye.spedera.com>

Please replace the paragraph on page 32, line 32-page 33, line 4 with the following amended paragraph:

Latency Probe Daemon (LATNPD) is used to determine the network latency from a POP to the client. Whenever SPD gets a request from a client, it sends a latency request for that client to the latency probes. The latency probes then find the network latency from the POP to that client and return it to all the SPD servers in the same zone. LATNPD uses a number of different probes to determine the latency. Multiple probe types are required since all the clients do not respond to a single probe type. Probe types include PING, DNS PTR, UDP packets to high ports looking for a noport response as well as any others that may generate a reply without spending much time at the target location. The order in which these probes are used to determine the latency can be configured using the configuration file. The type of probe used to determine the latency for a given client can also be specified in the client configuration file.

Please replace the paragraph on page 34, line 38-page 35, line 3 with the following amended paragraph:

To support the two-tier architecture the hostname entries are dynamically mapped in the configuration file to the second tier domain names (www._.speedera.net to www._.edge.speedera.net). SPD provides support for any number of second level domains. The “edge” and “persistent” domains are special domains that are used for the dynamic transformation of the host names.

Please replace the paragraph on page 41, lines 18-20 with the following amended paragraph:

1. User hits www._.customer.com generating a DNS request to their client DNS
2. Request to resolve www._.customer.com from client DNS goes to customer.com DNS server

Please replace the paragraph on page 42, line 18 with the following amended paragraph:

1. User hits `www._customer.com` generating a DNS request to Speedera DNS

Please replace the paragraph on page 52, lines 6-9 with the following amended paragraph:

A machine's `loadAverage` is typically in the range of 1.0-10.0. The `swapSpaceUsed` is in bytes and the division by 1M turns the right hand side into megabytes of swap space currently used. If the server can't calculate the load value for some reason, it will return a load of 1000.

Please replace the paragraph on page 54, line 23 with the following amended paragraph:

- `nextInHash` : pointer to the next element in the same bucket

Please replace the paragraph on page 55, lines 27-31 with the following amended paragraph:

As mentioned above, LATNPD stores up to three IP addresses for each client DNS group. So if a new client is added to a group that has only PARTIAL latency data available, it designates the new client as the active client and starts the probe process all over, starting with reverse name lookup. This is done so that the new client might give the FULL latency data .